[This question paper contains 2 printed pages.]

Sr. No. of Question Paper: 6952 D Your Roll No......

Unique Paper Code : 217363

Name of the Course : B.Sc. (Applied Sciences Industrial Chemistry)

Name of the Paper : ICPT-303 – Industrial Chemistry–III (Inorganic Materials)

Semester : III

Duration: 3 Hours Maximum Marks: 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

- 2. Attempt six questions in all.
- 3. Question No. 1 which is compulsory.
- 1. Attempt any five questions:
 - (a) Differentiate between physical and chemical adsorption.
 - (b) Write a short note on potassium fertilizers.
 - (c) Differentiate between ferrous and non-ferrous alloys.
 - (d) What is glass? Give its properties.
 - (e) What is a catalyst? Explain its role with the help of a suitable example.
 - (f) Define fertilizers. Also explain the purpose of adding fertilizers in the soil.
 - (g) Write a short note on Portland cement. (5×3)
- 2. (a) Write a short note on zeolites.
 - (b) What are the characteristics of a good catalyst?
 - (c) Define catalyst. Differentiate between homogeneous & heterogeneous catalysis. (4×3)
- 3. (a) What is battery? Differentiate between primary and secondary batteries.

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(b)

2	2
(b)	Explain the working of fuel cell or solar cell including the reactions involved.
(c)	Elucidate the functioning of any one of the following battery including the reactions involved.
	(i) Lead acid battery
	(ii) Lithium ion battery (4×3)
(a)	What are fertilizers? How they can be classified on the basis of their application?
(b)	Write a short note on mixed fertilizers.
(c)	Explain the manufacture of ammonium nitrate. (4×3)
(a)	Discuss the objectives and process of electroplating for metallic coatings.
(b)	Write the requisites of a good paint.
(c)	Write a short note on enamels. (4×3)
(a)	What are propellants? How they can be classified?
(b)	Write the manufacture of lead azide.
(c)	How the power of an explosive can be determined? Write any one method. (4×3)
(a)	Describe the steps involved in the manufacture of glass.
(b)	Differentiate between wet and dry process for the manufacture of cement.
(c)	Write a short note on hardening and setting of cement. (4×3)
(a)	Write the steps involved in the manufacture of steel

(ii) Explain quick setting cement. (6×2)

(i) What are alloys? How they can be classified?

(300)